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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,412	07/17/2003	Takuro Nishimura	Q76591	9610
23373	7590	05/31/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			POPOVICS, ROBERT J	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,412

Applicant(s)

NISHIMURA ET AL.

Examiner

Robert J. Popovics

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on March 17, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of **AAPA** (Applicants' Admitted Prior Art) and ***The Handbook of Separation Techniques for Chemical Engineers 2nd Edition (1988)***.

AAPA teaches:

[0003] 2. Description of the Related Art

[0004] In a process for producing a cellulose acylate film, a cellulose ester flake is first dispersed in a solvent and the mixture is stirred, preparing a cellulose acylate solution. Next, the cellulose acylate solution is subjected to filtration to remove foreign matters, thereby eliminating the possibility of defects in the film after film-formation. The filtered cellulose acylate solution is then formed to a film by co-casting or the like and the film is dried, thereby producing a cellulose acylate film.

[0005] The above-described filtration of the cellulose acylate solution is carried out for the purpose of removing foreign matters in a dope such as undissolved matters and insoluble matters, thereby preventing the occurrence of defects in the formed film. As a filtering material for the filtration, filter paper, filter cloth, sintered metal or the like is used. In any filtering material, pores of the filtering material may be plugged with time, causing a sudden increase of pressure difference in the later half of the filtration. Thus, it is necessary to periodically pass a cleaning solution through the filtering material to clean the filtering material to regenerate it.

[0006] Filtering materials having an absolute filtration accuracy of approximately 0.01 mm have been used in the current filtration. The filtration accuracy required is expected to be higher in future. In particular, for the cellulose acylate film for a liquid crystal display of recent years, high quality is

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required compared with the cellulose acylate film for photography, so that the absolute filtration accuracy needs to be improved.

[0007] However, a reduction of the pore size of a filtering material for the purpose of improving the absolute filtration accuracy will soon make the filtering material plugged, extremely reducing the life of filtration. In addition, the process for producing the cellulose acylate film has become faster in recent years, causing a reduction of time until occurrence of filtration plugging. The reduction of the time to the plugging of the filtration material increases cleaning frequency, thereby increasing the load for operators.

[0008] Furthermore, when the pore size of a filtering material is reduced, there will be such problems that high filtration pressure is necessary and it takes a long time in filtration, thereby reducing productivity.

AAPA does not appear to mention the use of filter aids. The Handbook of Separation Techniques for Chemical Engineers 2nd Edition (1988) teaches the use of filter aids to lengthen the filtration cycle. Among the well known filter aids disclosed by The Handbook are silica, perlite and wood pulp (pg 4-12). In view of this disclosure, it would have been readily apparent to one skilled in the art to employ these well known filter aids in the system disclosed by AAPA in order to lengthen the filtration cycle, thereby enhancing the economic efficiency of the process.

The dependent claims specify various percentages, particle size ranges, standard deviations, densities, thicknesses, terminal velocities, etc. These parameters are not seen to patentably

distinguish the instant claimed invention over the references as applied above. Presumably, Applicants' obtain the filter aids used from commercially available sources. It is submitted that those parameters specified with respect the physical properties of the filter aids would be met by the commercially supplied filter aids. The other parameters are submitted to be met by virtue of inherency, or alternatively, that they constitute parameters that would have been routinely optimized by those skilled in the art.

Response to Arguments

Applicant's arguments filed **March 17, 2006** have been fully considered but they are not persuasive. Applicants have argued that they ***"have amended claim 1 to recite that the cellulose acylate solution is filtered by a cake layer supported by a support wherein the cake layer is formed by pre-coating a filter aid to the support. In contrast, none of AAPA and Handbook disclose or suggest this feature of the present invention."*** The "limitation" applicants have asserted as being a point of novelty, could serve as a definition for "filter-aid filtration." Applicants are referred to the applied Handbook. As to AAPA, paragraph [0007] of the specification provides clear and unmistakeable motivation for one skilled in the art to look to filter-aid filtration to improve the economics of production. See: "Why Filter-Aid Filtration" at page 4-9 of the Handbook.

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Applicants next assert:

Further, a cellulose acylate solution for preparing a cellulose acylate film by solution film-forming method has high viscosity. Consequently, when filter paper, filter cloth, sintered metal or the like is used as a filtering material for the filtration as in the conventional technique, pores of any of these filtering materials may be plugged with time, causing a sudden increase of pressure difference in the remaining period of the filtration. Therefore, if filter paper, filter cloth, sintered metal or the like is used as a filtering material for the filtration, lifetime of the filtration cannot be extended.

The present invention solves the above problems in the art by precoating a filter aid on a coarse-mesh support and body-feeding the filter aid into the cellulose acylate solution. Even for a cellulose acylate solution having high viscosity, the lifetime of the filtration can be extended while keeping high absolute filtration accuracy.

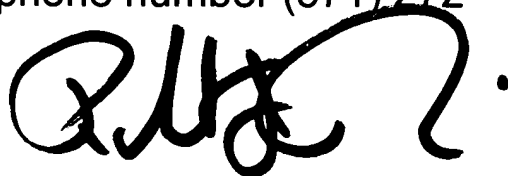
This argument is noted, however, it is not found persuasive, since it is not commensurate in scope with the claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Robert J. Popovics at telephone number (571) 272-1164.



Robert James Popovics
Primary Examiner
Art Unit 1724

May 30, 2006

